

✦ 1886 ✦

Illustrated Catalogue

OF THE

LATEST AND BEST IMPROVED

Brick Machinery.

HENRY MARTIN,

Inventor, Proprietor and Manufacturer,

LANCASTER, PA., U. S. A.



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Some New Departures in Brick-Machinery.

Among my many recent Patented improvements the following will be of special interest to Practical Brickmakers :

1st. My Automatic Mould-Protector.

2d. My Improved Plunger-Box, which Packs Itself and Prevents All Leakage.

3d. My Improved Gate.

4th. My Improved Table, which can be Raised or Lowered and Adjusted to suit any thickness of Mould. It also has Iron Rollers.

5th. My Automatic Self-Strike, which is simply Perfect.

My Improved Gate and Self-Strike, in connection with my Planer Attachment (which is an extra), will cut off all superfluous clay from the top of the Moulds as cleanly and close as it is possible to do it by hand.

Any one contemplating purchasing Brick-Machinery will do well to visit my Works, where I have a Machine, with all my Improvements. in practical operation.

TO BRICKMAKERS.

IN presenting my new Illustrated Catalogue for the season of 1886, I desire to express to the trade my thanks for the very liberal patronage they have bestowed upon me in the past, and to assure them that no effort shall be wanting in the future on my part to maintain the reputation which the Henry Martin Brick Machines have obtained for themselves, and of which I feel justly proud.

The machine as now presented to the trade is not a new one, but is the machine invented by me over 25 years ago, with the additions and improvements which from time to time my experience, observation and practical knowledge of the requirements and wants of the craft have caused me to supply. Every contingency is provided against. Careless handling is remedied, and should stones or other hard substances get into the machine, it at once relieves itself from them without damage.

It is the strongest Brick Machine in the market.

It is made of the best selected materials.

It is simple in its construction.

It does not require skilled labor to operate it.

It is not liable to break down or get out of order.

It is adapted to every variety of clay and makes good, merchantable brick from any clay that will admit of being worked by hand.

It grinds and tempers its own clay by means of wrought-iron knives (see cut on page 8.)

It moulds the clay very stiff; just the thing for Pallet brick. Every brick is turned out with sharp, clear cut, well-defined edges, square corners, smooth faces, and all fit for fronts.

It is automatic in its action and works like a thing of life.

The moulds are dusted with fine, sharp sand before being placed in the machine. This, when properly done, will prevent the clay from sticking to the moulds, but when the clay is moulded very stiff the slightest jar against the brackets on the table, marked 37, will cause the bricks to deliver freely from the moulds.

When the clay is moulded soft for dumping out on the open yard, the pressure not being so great, this jarring is not necessary.

Practical brickmakers pronounce it the most perfect Stock Brick Machine now in use.

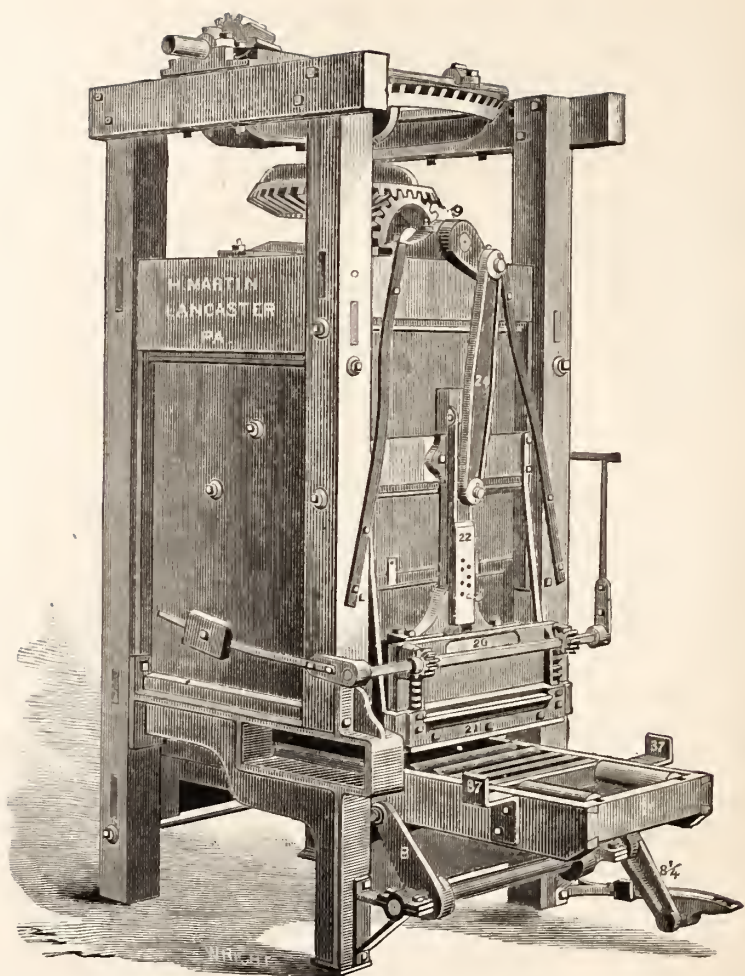
My Pallet System, see pages 21 and 22, is coming into general use and recommends itself as the most perfect and practical way of caring for brick when made.

During the past 29 years (since 1857) the Henry Martin Brick Machine has been tested all over the United States and Canadas, over a thousand having been sold during that time ; starting from small beginnings and steadily growing in favor and popularity, it is to-day practically without a rival. "So thoroughly convinced am I that my machine will do all that is claimed for it, and that when properly handled, with good yard facilities, it will make better brick than can be made by hand or any other machine, that should it fail in any such case I will take it away at my own expense and refund both purchase money and freight." No offer could be fuller or fairer, and I mean what I say. Recommending the above to the earnest and careful attention of all practical brickmakers, and inviting your attention to the annexed Illustrated Catalogue, I have the honor to be

Your obedient servant,

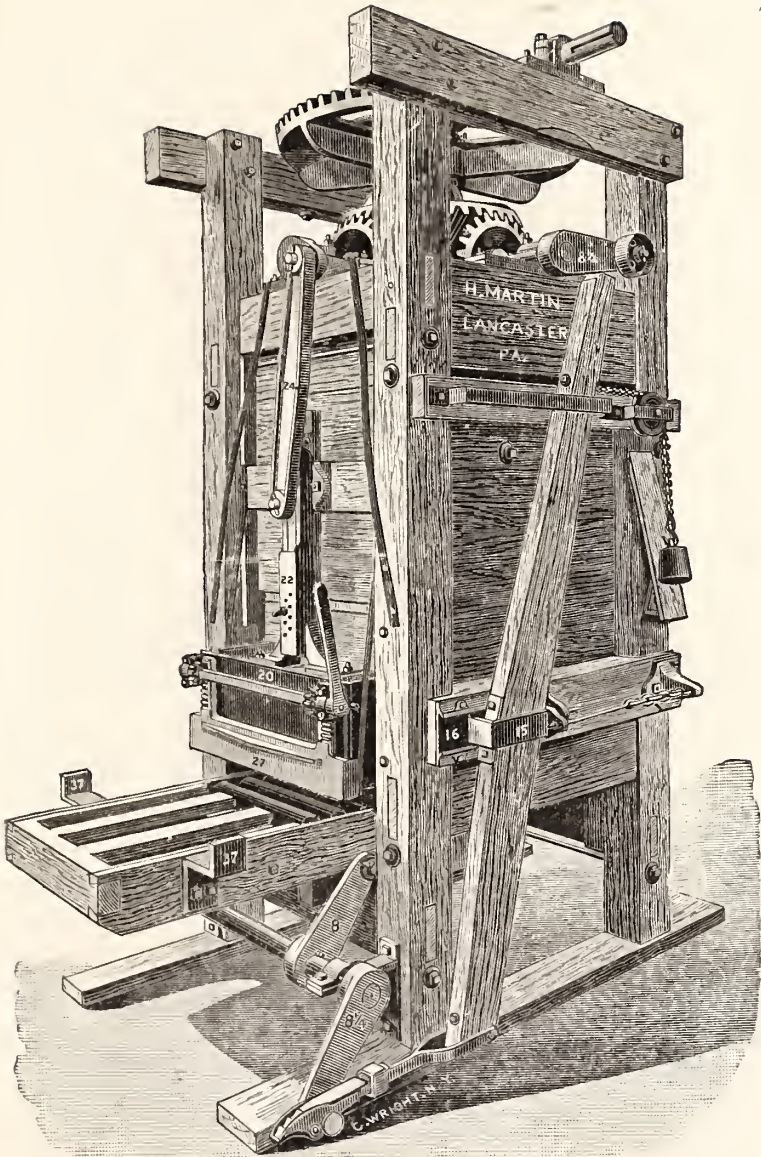
HENRY MARTIN,

Inventor, Proprietor and Manufacturer.



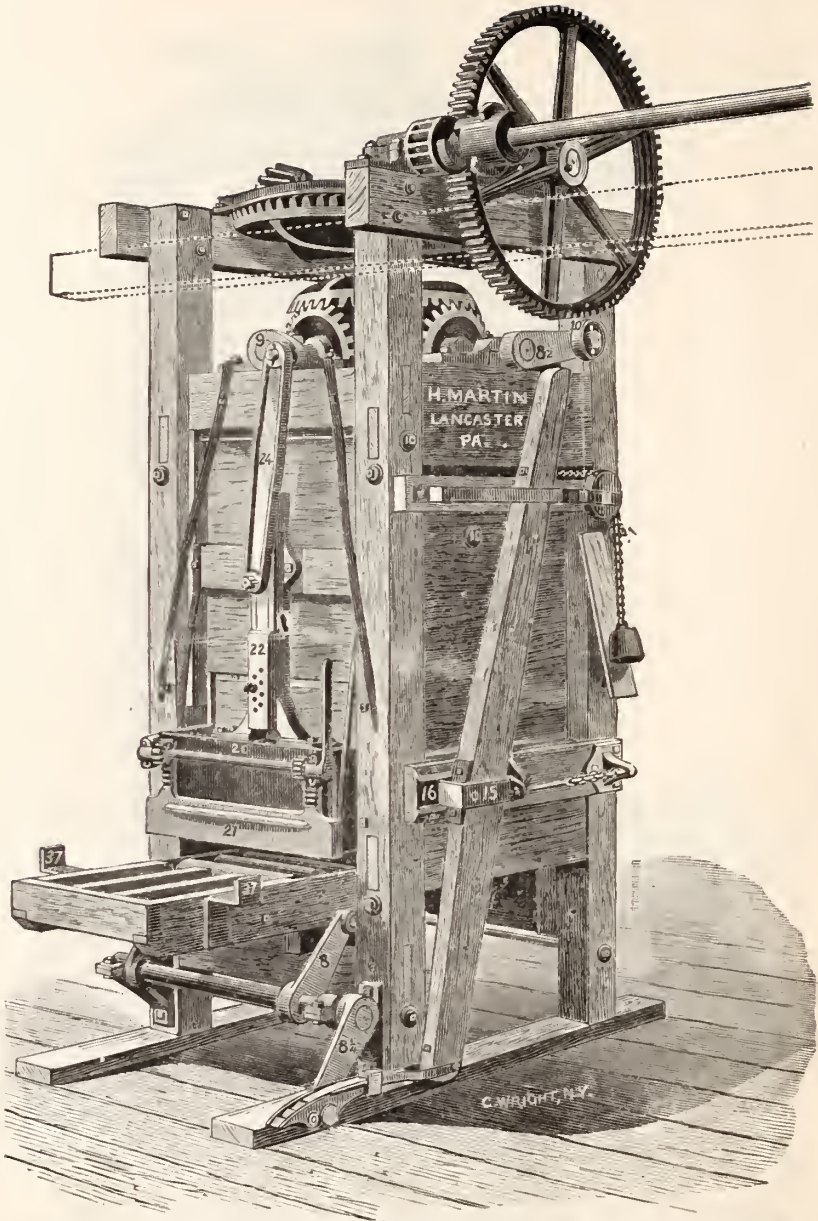
Front and Left Side View of Steam Power Machine, with Iron Leg.

THE above cut is a *fac-simile* of the Henry Martin Steam Power Brick Machine (latest improved), fitted up with the large Crown Gear, the Top Plate, the 3-inch Shaft and Bevel Pinion. The 3-inch Shaft is key-seated at each end and is long enough to receive a coupling, or Spur Gear. The iron leg on left front of machine forms a solid support for the bottom, as also a large mould entrance. The Improved Gate and Self-Strike are also shown, as also the Self-Packing Plunger. These improvements render it the most perfect Stock Brick Machine in the market.



Steam Power Machine, Front and Right Side View.

THIS cut is a *fac-simile* of the Henry Martin Steam Power Brick Machine, showing my Patent Automatic Spring Grab-Hook, which relieves itself should a mould catch from any cause. Weight of Machine, 7,000 lbs.



The Henry Martin Steam Power Brick Machine ready for Pulley.

Weight, 7,200 Pounds. For description see Page 7.

Steam Power Machine, with Counter-Shaft, ready for Pulley.

THE cut on opposite page is a *fac-simile* of the Henry Martin Steam Power Brick Machine, fit up with the large Crown Gear, the Top Plate, the 3-inch Shaft and Bevel Pinion, the Spur Gear, 10-feet Counter-Shaft, fit up with my Patent Clutch attached to Pinion, and is all ready for any size of pulley desired.

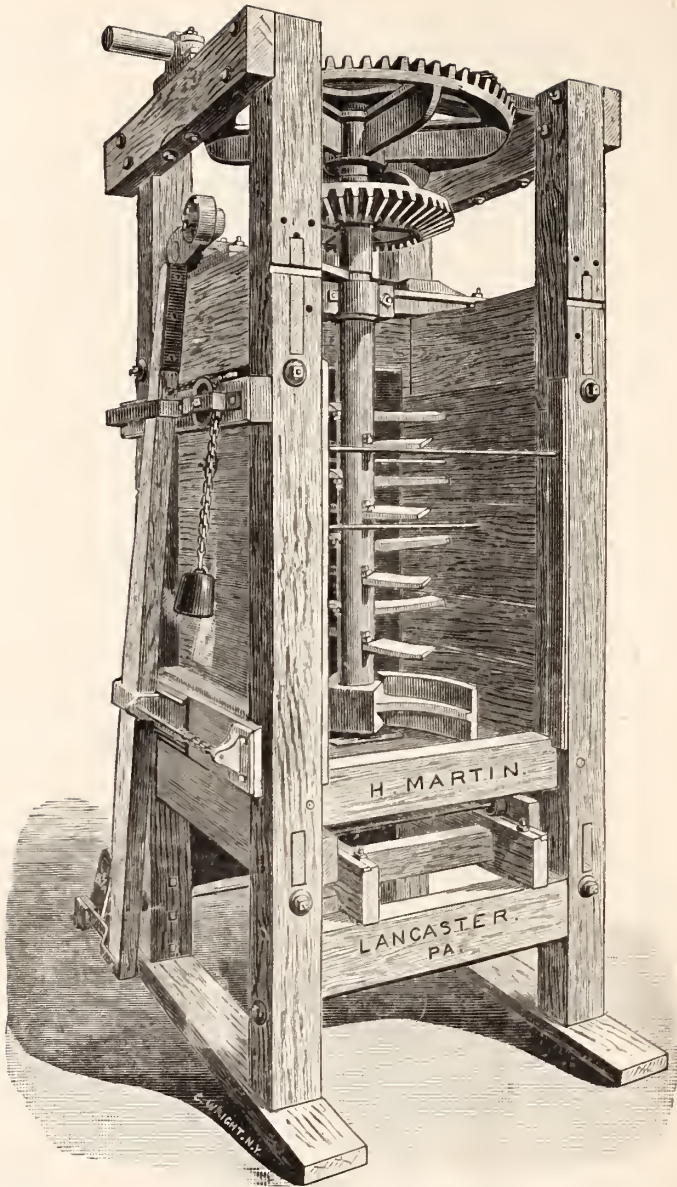
When ordering a Steam Power Machine, the speed of the engine and diameter of pulley on same should always be given.

I can select Gears to suit any speed and make any desired number of brick per minute.

The capacity of the Steam Power Machine is practically limited only by the facilities for feeding clay to the machine and taking care of the brick when made. State also the exact inside measure of moulds.

Repairs.

Every part of the machine is numbered, and printed lists of these numbered parts are furnished to every purchaser of a machine, so that in the event of breakage from accident, or any other cause, a duplicate of any part can be ordered either by mail or telegram, simply by stating the number of the casting wanted. All such orders receive the promptest attention, being shipped by the first express after receipt of order unless otherwise directed.



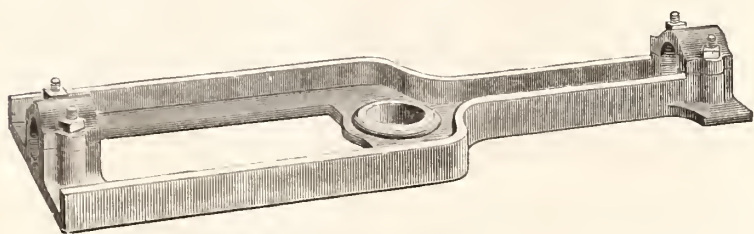
The Henry Martin Steam Power Brick Machine--Interior View.

THE best constructed and most powerfully geared self-tempering Brick Machine in the market. Weight, 7,000 pounds. For description see Page 9.

Steam Power Machine—Interior View.

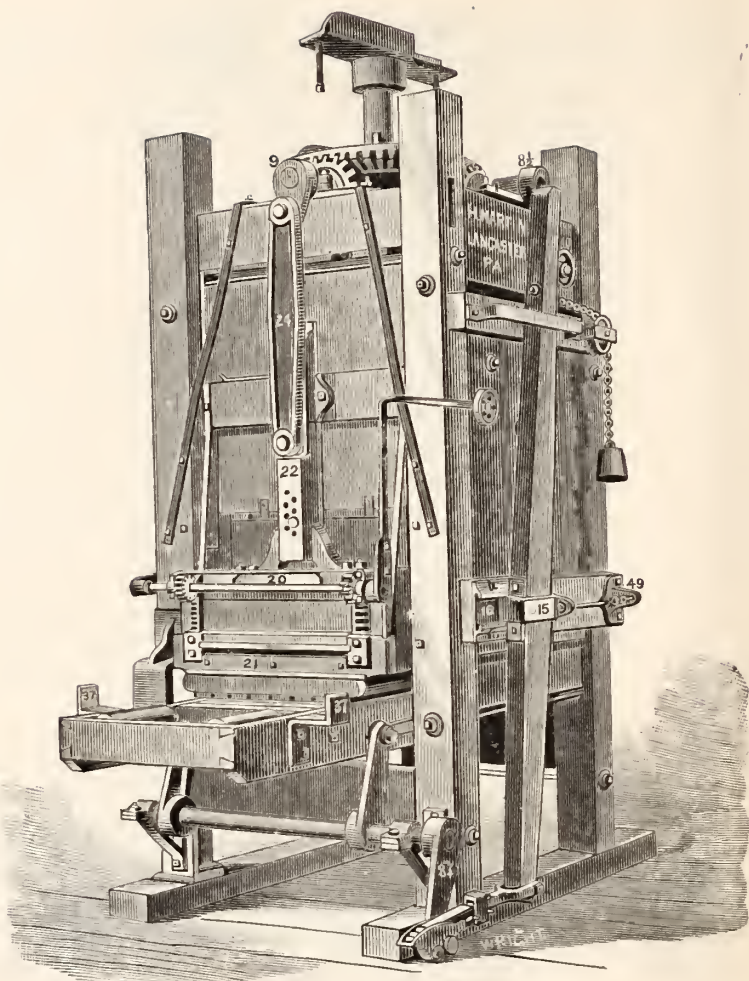
THIS cut gives a view of the interior of the machine showing the main shaft and the arrangement of the Wrought-Iron Knives, by means of which the clay is tempered, as also the Wiper for filling the Press-Box. These machines are solidly built; every part bears evidence of strength, the materials are carefully selected, and my aim has been, and still is, to have everything of the best. In the erection of these machines nothing is slighted, and to this care and watchfulness in preserving a high standard I attribute in a great measure the reputation the Henry Martin Brick Machine has achieved. I cannot afford to let poor or inferior work leave my shops.

Each and every machine is thoroughly adjusted before leaving my shop, and no pains are spared to render each a Model Machine.



Heavy Top Plate.

This is securely bolted to the Top Girths and sustains the upper end of the main shaft. It is furnished with two boxes to receive the 3-inch shaft.



The Henry Martin Horse Power Brick Machine.

(For Two Horses.)

CAPACITY, 2,000 per hour, with four men and four boys.
Weight, 4,500 pounds. Can be changed to steam power if desired, see page 17.

Two Horse Power Machine.

THIS cut is a *fac-simile* of the Henry Martin Horse Power Brick Machine for two horses. It represents the machine complete and ready for the sweep. This is a sapling, or piece of timber, 16 feet long from centre of shaft, fitted into the sweep cap, and bolted with two bolts, which accompany the machine. It will make easily 20,000 brick per day. The sweep being 16 feet long, the horses travel in a circle of about 96 feet, making 55 circuits to the mile. Every revolution of the main shaft, represented by each circuit, turns out 3 moulds of 6 brick each, or 18 bricks to each revolution, or 990 bricks to each mile. You can readily see how many bricks can be made at any rate of speed attained. Any length of sweep can be used. The longer the sweep the easier the draught, but slower the speed. When ordering a Horse Power Machine, be particular in giving the exact inside measure of moulds desired, length, breadth and thickness.

This machine uses moulds of 6 brick each, up to and including $4\frac{1}{4}$ inches in width, and beyond that width 5 brick each. It is not hard on horses, the draught being steady. Should it be desired, steam gearing can be added at any time, see page 10.

It is strongly built and makes a very serviceable and complete machine.

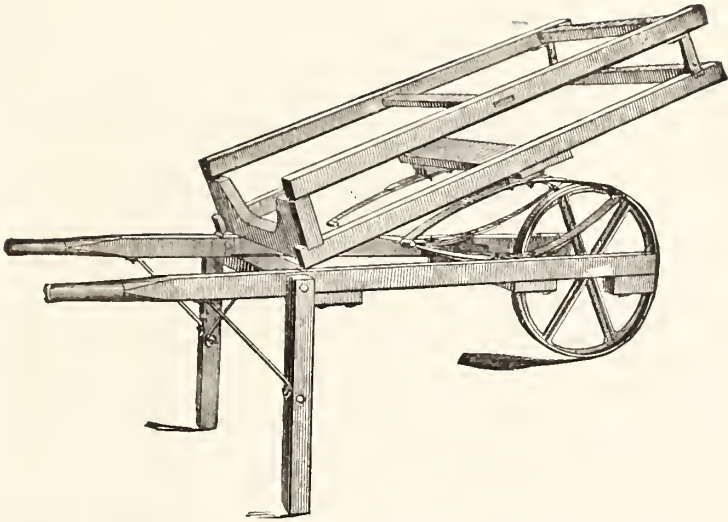
References.

Printed testimonials are not the most satisfactory endorsements, nor are they usually the best guide to a purchaser. I have a large number in my possession, but prefer that parties contemplating the purchase of a Brick Machine should write direct to any of the numerous practical brickmakers whose names are contained in this catalogue, and get their opinion of the Henry Martin Brick Machine.



Henry Martin's Patent Double-Deck Spring Truck.

THIS Truck is a great labor-saver and where a large number of brick are made is almost indispensable. It is made to carry nine pallets of brick, though some load a tenth pallet on the handles. It is strongly built and securely braced. It is of light draught and easily handled, and saves one-half the run of the off-bearers. The weight when loaded is so evenly distributed that a boy can run it with ease. The springs are of the best quality.



Henry Martin's Patent Double-Deck Spring Barrow.

THIS Barrow is strongly made and will carry nine moulds of brick. The springs are of best quality and are so adjusted that the load is evenly balanced. It is specially adapted to tracking on a plank. The brick are never jarred and there is no weight on the hands.

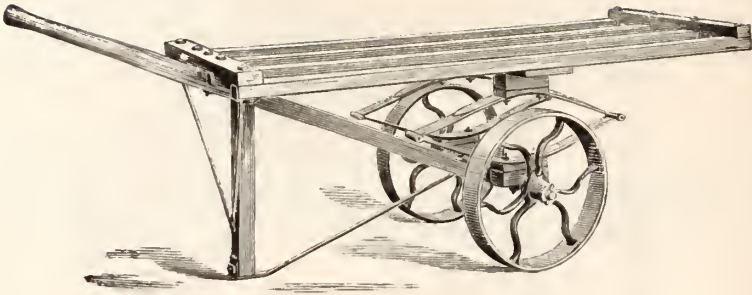
Special Information.

Any desired information not contained in this Catalogue will be cheerfully furnished, as also detailed estimates for any required machinery. I have had considerable experience in fitting up yards in every section of the country and shall in all cases, to the best of my judgment, advise the most efficient and practical methods of accomplishing the results desired by those consulting me. Correspondence solicited.

Address,

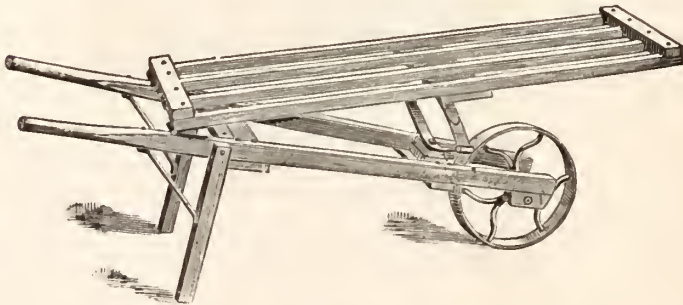
HENRY MARTIN,

Lancaster, Pa., U. S. A.



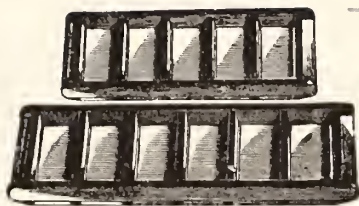
Spring Truck.

This Truck is made very light, yet is strong and durable. The very best springs are used, and it will carry five moulds of brick out at a time. It is well-made, and is just the thing for boys to off-bear with.



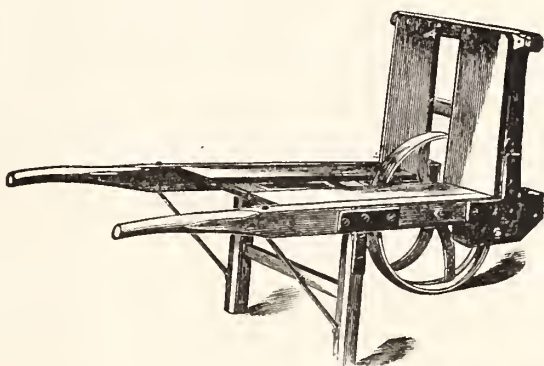
Single-Deck Spring Barrow.

This Barrow is light, strong and durable. The Single Spring is of the very best quality. It will carry five moulds of brick at a time, and is well adapted to tracking on a plank.



Moulds.

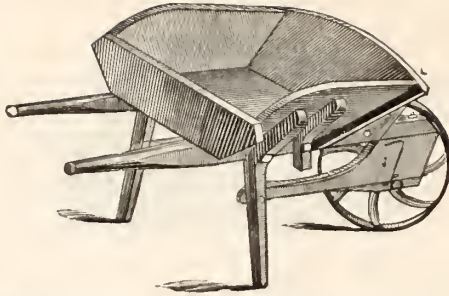
MOULDs are made very strong and durable. The best seasoned and soundest cherry wood is used, and they are dove-tailed and bound with iron top and bottom in the most substantial manner. They are made for any size brick that may be desired.



Green-Brick Barrow.

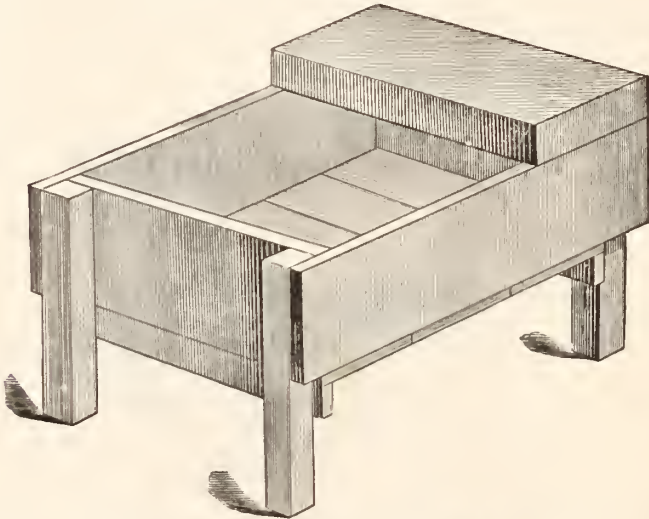
EXCLUSIVELY for wheeling green brick to the kiln. It is strong and durable, with iron wheel, broad tread, well-braced, evenly balanced and light of draught. It will carry from 80 to 100 brick with ease.

I also make a Green-Brick Barrow with Springs, which is especially adapted for wheeling Face, Front or Pressed Brick.



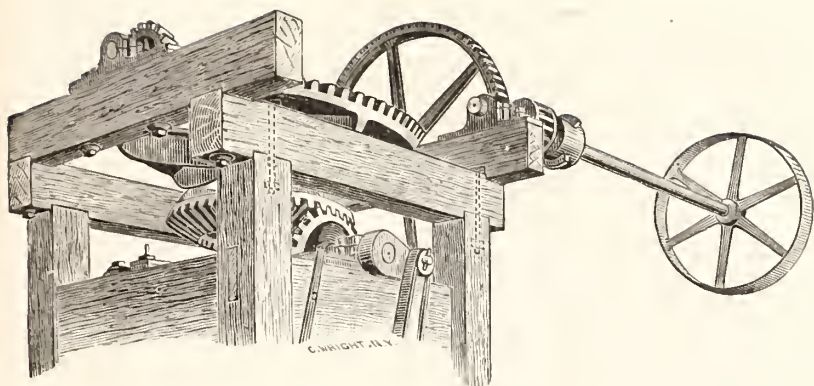
Mud or Dump-Barrow.

This Barrow is very strongly made, and is just the thing for hauling Clay to the Machine. It is well balanced, of easy draught, and dumps clearly over the wheel.



Sand-Box for Sanding the Moulds.

DIRECTIONS FOR MAKING : It is made of 2-inch Stuff. Cut four pieces, 3 feet, 6 inches long, by 12 inches wide, for ends and sides. Nail on the 4-inch by 4-inch Scantling, and put a plank at front, 12 inches wide, on which to rest Moulds when empty. The bottom should be double, with broken joints, so as to be perfectly tight. When put together in the manner shown in cut, its inside measure will be 3 feet, 6 inches, by 2 feet, 6 inches.



Horse-Power Changed to Steam.

THIS cut represents the manner of changing a Horse-Power Machine to Steam Power, and shows the arrangement of the girths, by means of which sufficient room is obtained for the addition of the large Crown-Gear, Top Plate, and 3-inch Shaft with Bevel-Pinion. It also shows the Spur-Gear, Countershaft fitted with Pinion attached to my Patent Clutch, together with the Pulley.

When fitted up in this manner it is very strong, and is as complete as a Steam-Power Machine. Many parties who have run a Horse-Power Machine for two or three seasons, have changed them to Steam Power in this manner, and have been well satisfied with their working.

Full instructions for placing the timbers and setting the gearing are furnished.

To work the Henry Martin Steam-Power Brick-Machine, satisfactorily, I always advise the use of an engine of ten-horse-power capacity. It can be, and frequently is, run with engines of less capacity; but this I do not advise, as the wear and tear will more than counterbalance the saving in cost.

A fifteen-horse-power engine will run two machines.

A twenty-horse-power engine will run four machines.

When ordering a Steam-Power Brick-Machine, give the Speed of your Engine and the Diameter of its Driving Pulley: this will enable me to select suitable gears for any number of brick per hour which it is desired to make. The capacity of the Steam-Power Machine is limited only by the facilities for taking away and properly caring for the brick when made.

The Number of Hands Required to Work the Henry Martin Brick Machines.

Steam Power Machine,

Where Two Soak-Pits and Elevators Are Used.

2 Men to Feed Machine,	1 Man to Sand Moulds,
2 Men to Dump,	3 Men to Off-bear,
1 Man to Rack,	1 Boy to Wheel Pallets,
1 Boy to Handle Pallets.	

Horse Power Machine for Two Horses.

2,000 per Hour. 20,000 per Day.

2 Men to Feed Machine,	1 Man to Sand Moulds,
1 Man to Dump,	3 Boys to Off-bear,
1 Boy to Wheel Pallets.	

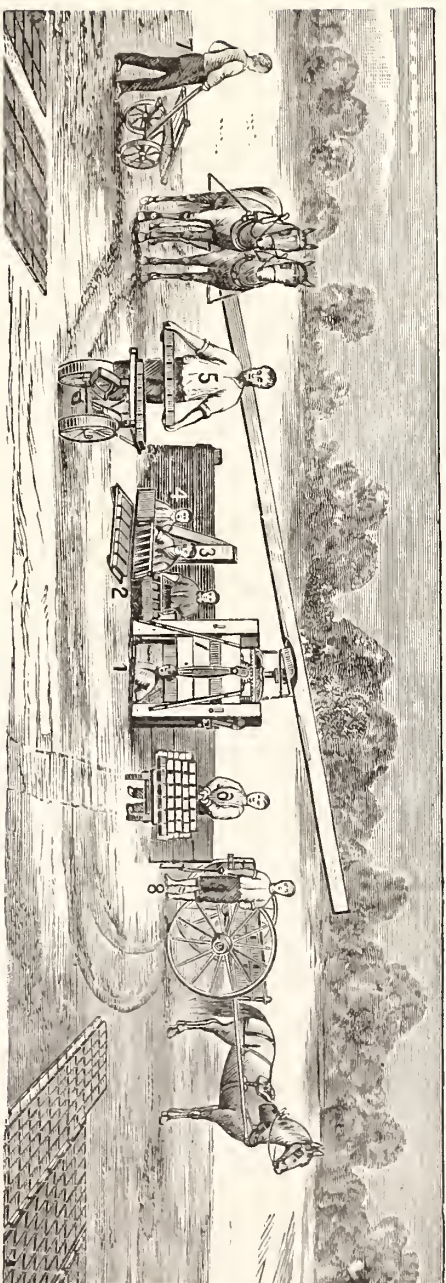
Practically the capacity of the Steam Power Machine is limited only by the facilities for feeding the clay to the machine and caring for the brick when made.

The Horse Power Machine can readily be changed to steam power whenever desired. The gearing necessary for this purpose will be promptly furnished, together with full instructions for placing it in position.

I shall be pleased to render you any information in my power. Correspondence solicited.

HENRY MARTIN,

Lancaster, Pa., U. S. A.

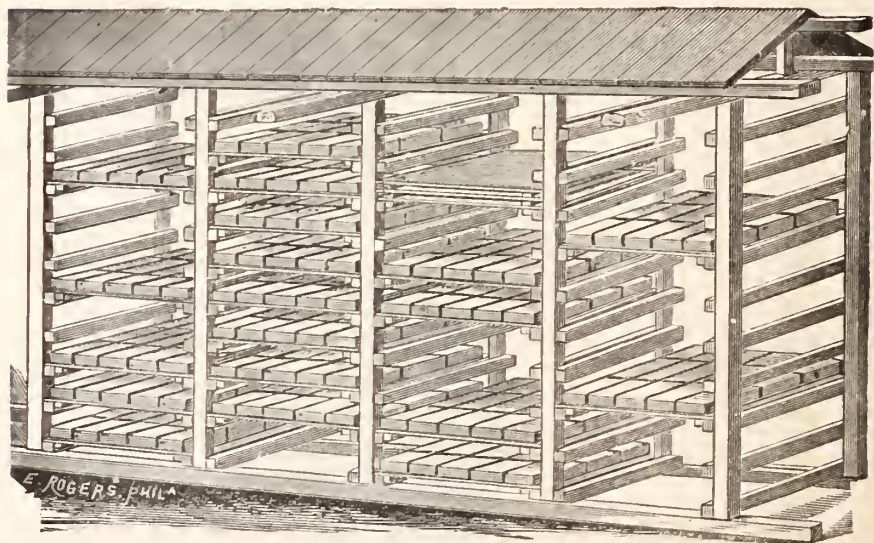


The Henry Martin Horse-Power Machine.

This cut shows the Henry Martin Horse-Power Brick-Machine set in pit, and fitted up with the sweep, and manner of hitching the horses thereto. With one pair of horses and eight hands to work the Machine, it will make 20,000 brick per day. In many instances it has largely exceeded this number. Every brick is perfect, with clear-cut, well-defined edges, and smooth faces. The Machine will make good merchantable brick from any clay that can be worked by hand. It works its clay stiffer than can be done by hand, and thus secures a finer finish. Any size of brick desired are made by the Henry Martin Brick-Machines.

Henry Martin's Pallet System for Taking Care of Brick.

This system, which has been in general use since 1873, is the most certain and practical method of taking care of brick ; and, as will be seen by the testimonials published from time to time in my several catalogues, is endorsed by many of the largest and most successful brick-manufacturers in the country. By this system every brick is taken care of as soon as made, no brick are lost by storms, all washing of brick is avoided, and in addition it admits of brick being made in such weather when it would be impossible to dump them on the yard.



Section of Rack, Showing the Pallets and Brick on the Cleats.

THE cut on the opposite page shows a section of Rack, illustrating the manner of construction and the arrangement of the Cleats upon which the Pallets containing the newly-made brick are placed.

The Racks are made of such length as convenience will permit and are so placed that the gangways between them are 8 feet wide, to admit of two trucks passing each other. The Racks have ten tiers of Cleats, each Cleat holding three Pallets. This, as will be seen by reference to the cut, will permit each space to hold 30 Pallets of six brick each, or 180 brick to each space.

The Pallets should be 2 feet 10 inches long, 10 inches wide, and about $\frac{5}{8}$ -inch thick, with Cleats nailed on the under side one inch from each end to prevent warping.

It will require about five days to dry the brick in good weather ; you will therefore require enough Racks and Pallets for five days' work, whatever that day's work may be.

The following is the amount and sizes of lumber required for the erection of a Rack to hold 12,000 brick :

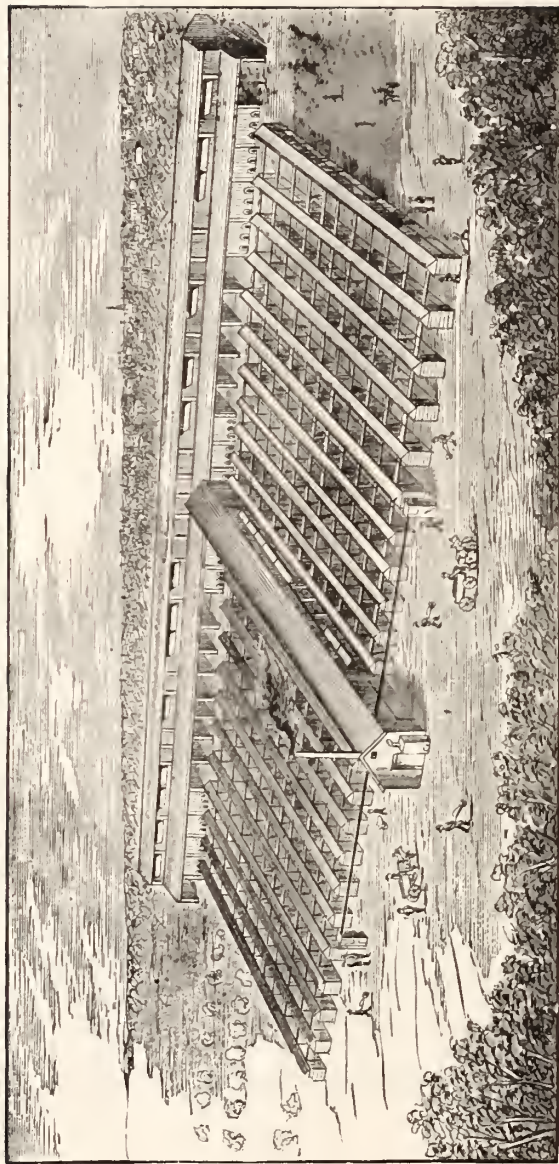
136 pieces, 2 by 3 inches, by 6 feet long	408 feet.
25 pieces, 2 by 3 inches, by 12 feet long	150 "
46 pieces, 3 by 2 inches, by 16 feet long	368 "
1340 pieces, 1 1-2 by 1 inch, by 2 feet 6 inches long. .	420 "
1000 feet for Roof, 16 feet long by 12 inches wide. .	1000 "

Total amount of lumber required . . . 2346 feet.

Any further information will be cheerfully furnished on application to

HENRY MARTIN,

Lancaster, Pa., U. S. A.



THE above view of Messrs. Brooker & Fisher's Brick Yard, fitted up in 1884, at Toledo, Ohio, with two Henry Martin Steam Power Machines, and two Pug Mills, on the same line of shafting, gives a general idea of a well-arranged yard, and shows the absolute production afforded by Martin's Pallet System.

Messrs. Brooker & Fisher made 5,000,000 brick with this plant the first season, and their successors, Messrs. M. W. Brooker & Co., last year added another Steam Power Machine and Pug Mill. The Henry Martin Machines make the best brick in Toledo.

CONTRACT.

I WILL within five days of the receipt of this contract, with the blank filled up at list price, ship to any responsible party such machine as they may select, and will abide by the terms herein specified :

Mr. HENRY MARTIN, Lancaster, Pa.:

SIR—Please send to

at of your
"Martin's Improved Power Brick Machines,"

Freight at expense, which agree to purchase from you on the following conditions: That you guarantee said Machine to make Bricks of the ordinary size, per hour, to provide you with good yard facilities, good clay, suitable moulding sand, also with men and power, as per your Estimate No. of this Contract, and to pay two dollars per day and travelling expenses of a competent person furnished by you to superintend the putting up of said Machine and giving it a fair trial; said trial to take place immediately after the Machine has been received and placed in working order on the yard, and to be under the direction of the person furnished by you to set it up. If the Machine does perform the work you claim, the delivery will be complete, and I agree to pay you the sum of

In case said Machine does not perform the work as guaranteed, after having refunded the money paid as freight, you will remove it from the yard at your own expense, and cancel this order.

GUARANTEE.

I WILL guarantee the machine to make better brick than can be made by hand, or by any machine, at the following estimate, and to make the number of brick specified at an approximate cost of labor as given below:

No. 1.**Steam Power Machine.**

3,500 Brick per Hour. 35,000 Brick per Day.

3 Men to Feed Machine, @ \$1.50	\$4.50
1 Man to Sand Moulds,	1.50
2 Men to Dump, \$1.50	3.00
4 Boys to Off-bear, @ \$1.25	5.00
1 Man to Rack.	1.50
1 Boy to Handle Pallets.	50
1 Boy to Wheel Empty Pallets	50

\$16.50

Or, 47 1-7c. per M. for labor.

No. 2.**Two-Horse Power Machine.**

2,000 Brick per Hour. 20,000 Brick per Day.

2 Men to Feed Machine, @ \$1.50	\$3.00
1 Man to Sand Moulds	1.50
1 Man to Dump	1.50
3 Boys to Off-bear. @ \$1.25.	3.75
1 Boy to Wheel and Handle Pallets.	50

\$10.25

Or, 51 1/4c. per M. for labor.

The above estimates do not include the cost of bringing the clay to the machine or soak-pits. This expense depends altogether on the distance it may be brought. It will be found to average 25c. per thousand.

For Form of Contract based on the above Guarantee, see next page.

HENRY MARTIN,

Lancaster, Pa., U. S. A.

The Cost of Making Brick

is subject to variation from a variety of causes, such as the price of labor, the convenience of locality, the system of management, etc. The following will enable the reader to form an intelligent estimate suited to his own particular case :

PITTSBURGH, PA., March 31st, 1879.

MR. HENRY MARTIN—*Dear Sir* : We are now entering upon our third year with your Brick Machine. Everything is very encouraging. We value the Machine more now than ever before. We make better brick than we can make by hand. Builders prefer them. Part of our brick are dried in Racks, and part are dried on a hot floor. We get our best brick from the Racks. I will give you the actual cost of making brick, and setting the brick in kiln, with our present way of work :

We have one man to feed Machine	\$1 50
“ one man to strike-off	1 50
“ one boy to sand moulds	75
“ one boy to dump	1 00
“ four small boys at 50 cents each	2 00
“ one man half-a-day racking	62
“ one man to set brick in kiln	1 50
“ two men to wheel brick	2 50
“ one boy to run the engine	1 00
	\$12 37

This set of men and boys make and set in the kiln 15,000 brick per day for the above wages; or at the rate of 82½ cents per 1,000. Leave the setting off—56 cents per 1,000—you will also perceive that we pay our hands fair wages. There is no other brick works that we know of which pay as good wages. In the foregoing we have not stated the cost of bringing the clay to the soak-pit, as that all depends on the distance it must be brought.

Please write soon. We would be glad to have you call when you pass this way, and see us in operation.

For the present we remain, most respectfully yours, etc.,

SANKEY BROS.

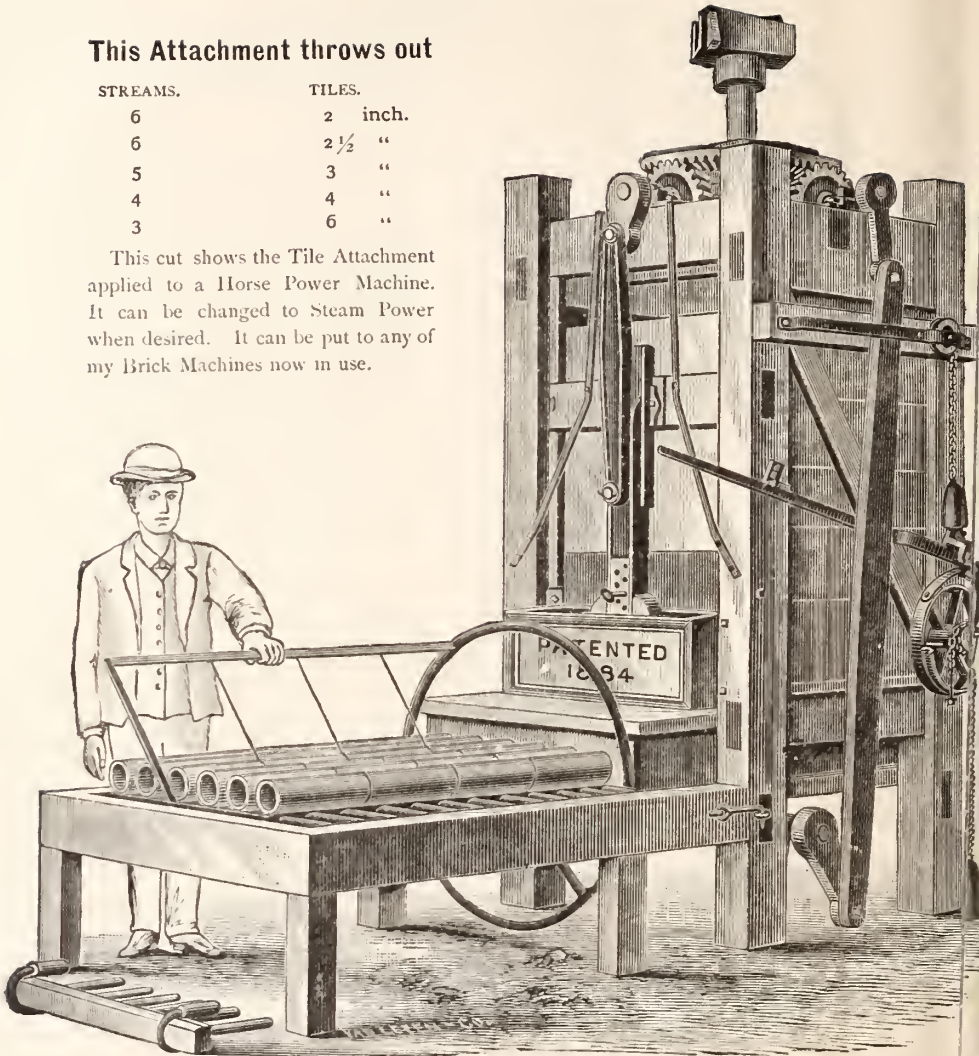
Messrs. Sankey Bros. have now three of my machines and make brick all the year round.

They have sold a large number of my machines.

This Attachment throws out

STREAMS.	TILES.
6	2 inch.
6	2 ½ "
5	3 "
4	4 "
3	6 "

This cut shows the Tile Attachment applied to a Horse Power Machine. It can be changed to Steam Power when desired. It can be put to any of my Brick Machines now in use.

**The Henry Martin Stock Brick and Tile Machine.**

THE best combined Brick and Tile Machine in the United States, without any exception. It has no equal. It can be changed in a few minutes from making Brick to making Tile, and is perfect either way. It will make more Tile with less power than any machine in use and all perfect. With three men and a boy to work it, from 10,000 to 12,000 Tile can be turned out every 10 hours, or a double quantity if twice the above number of operatives are employed to shovel in and carry away.

OFFICE OF THOMAS ANDERSON AND SONS,

Manufacturers of Fire-Brick, Tile and Fire-Clay.

FREEMAN'S LANDING, W. VA., March 29, 1879.

HENRY MARTIN, ESQ.—*Dear Sir:* We have been using one of your Brick-Machines for two years, with the **utmost satisfaction**. We have accomplished with it far more than you ever claimed, and are now manufacturing brick cheaper than your printed estimate claims, and would not be without a Machine for **three times its cost**. We use the Board Pallets for the following reasons: We can manufacture **cheaper with them**; and brick are **far superior** made on them to those made on the yard. We have practically demonstrated this fact, and know whereof we speak. By **all means** have your customers **use the Pallets**. One trial will convince the most obstinate man that **Pallets are beyond question** the grandest thing of the day in brick-making. Will also say that in two years the repairs and oil will not exceed \$3.00, and don't see why it will not be as good as at the end of ten years.

Would also say to you, that anything that we can do for you in the way of recommendation to parties wanting a machine, we will cheerfully do it, for we consider you a **public benefactor** to the race known as "**poor brick-makers**."

Wishing you abundant success, we remain

Yours truly, THOS. ANDERSON & SONS.

The Following Named Persons Are Also Using the Henry Martin Fire-Brick Machine.

Utica Fire-Brick Co., Utica, Ill.

Ottawa Fire-Brick and Clay Co., Ottawa, Ill.

Harbison & Walker, Fire-Brick, Pittsburgh, Pa.

Keystone Fire-Brick Co., Layton Station, Pa.

Diamond Fire-Brick Co., Layton Station, Pa.

H. K. Vandusen, Philadelphia, Pa.

Ezra Frost, Fire-Brick, New Lisbon, O.

Porter & Co., Fire-Brick, New Lisbon, O.

Daniels and Francey, Fire-Brick, Elliottsville, O.

N. U. Walker, Fire-Brick, Wellsville, O.

John Francy, Fire-Brick, Sloan Station, O.

W. B. Freeman, Fire-Brick, Freeman's Landing, W. Va.

Thos. Anderson & Son, Fire-Brick, Freeman's Landing, W. Va.

Warren Delno, Supt. Mt. Savage Fire-Brick Co., Mt. Savage, Md.

REFERENCES :

As an evidence of the adaptability of the **Henry Martin Brick Machines** to every variety of clay, I respectfully refer to the following practical Brickmakers who have them in use in every section of the country.

- * Steam Power Machine.
- † Horse Power Machine.
- † Racks and Pallet System.
- § Horse Power changed to Steam.
- || Elevator and Double Soak-Pits.
- Steam Power Machine and Pug Mill.

Alabama.

- * John Snow & Co., Tuscaloosa.
- † Cook & Stewart, Anniston.
- † Woodstock Iron Co., Anniston.
- * A. M. Kennedy, Montgomery.
- † Thomas M. Riley, Mobile.
- * F. P. O'Brien, Birmingham.
- * Alabama Insane Asylum.

Arkansas.

- * † W. H. Ward, Little Rock, *2 machines*.
- † Varner Bros., Texarkana.

Connecticut.

- Eugene Strickland, Middletown.
- A. M. Wilson, Hartford.
- Hartford Brick Co., *3 machines*.
- F. Fuller, Hartford.
- John Mills, Hartford.
- A. F. Waterhouse, Hartford.
- A. Thomas, Thomaston.
- * H. P. Shares, New Haven, *7 machines*.
- * A. Ives & Son, New Haven, *4 machines*.
- * W. E. Davis, New Haven, *2 machines*.
- * I. L. Stiles & Son, New Haven, *6 machines*.
- * Potter & Connelly, New Haven, *2 machines*.
- * Fisher's Island Brick Manufacturing Co., New London.

California.

- † Roberts & Davis.

Delaware.

- * Alvan Allen, Wilmington, *2 machines*.
- † Dover Brick Manufacturing Company, Dover.

Florida.

- † A. F. Yniesta, Pensacola.

Illinois.

- * Price & Payne, Galva.
- † Cameron & Hummel, Lewistown.
- † John Kloess, Bellville.
- † J. L. Turner, Taylorsville.
- * H. H. Pierce, Peoria.
- * Pullman Car Co., Pullman, *11 machines*.
- * E. Davenport, Waynesville.
- † J. P. Headly, Toulon.
- † Jos. Lyford, Neponset.
- * Anderson Bros., Taylorville.
- * C. H. Little, Freeport.
- † Luke Goodwin, Mendota.
- * Streator Tile Works, Streator.
- † C. Solfsburg, Aurora.
- * Utica Fire Brick Co., Utica.
- * Ottawa Fire Brick and Clay Co., Ottawa.

Indiana.

- † Walker & Hunt, Aurora.
- * Burns & Collett, Montezuma.
- * Evansville Pressed Brick Co., Evansville.
- * J. K. Caldwell, Porter's Station.

Iowa.

- † R. L. Blesh, Maquoketa.
- * Geo. Wood, Des Moines.
- * C. A. Dow, Cherokee.
- * J. J. Sullivan, Missouri Valley.
- † W. B. Strayer, Waterloo.
- * John P. Rankins, Cherokee.
- * Brannan & Antrim, Randolph.
- † N. B. Wheeler, Cresco.
- * Muscatine Pressed Brick Co., Muscatine.

Kansas.

- † Olsen & Bro., Salina.
- † Amon Fenn, Leavenworth.
- † John M. Price, Atchison.
- † Jacob Nass, Atchison.
- § John Walters, Atchison.
- † Capt. L. E. Campbell, Depot Quartermaster, Fort Leavenworth.

Kentucky.

- † E. B. Russell, Danville.
- † Egelhoff & Zabell, Louisville.
- * Kleymeyer & Klute, Henderson.

Louisiana.

- Perrie Oliver, Vermillionville.
- G. L. Parker, Covington.
- * Wm. Garig & Co., Baton Rouge, 2 machines.

Maine.

- * Brewer Brick Co., Bangor, 2 machines.

Maryland.

- † H. C. Dodson, St. Michael's.
- * H. Swartzwelder, Cumberland.
- † Jos. White, Easton.
- || J. E. Sifford, Frederick.
- † J. M. Stouter, Emmittsburg.
- * Warren Delno, Supt. Mt. Savage Fire Brick Co., Mt. Savage.

Massachusetts.

- † E. M. Cumming, Haverhill.
- † Manly McClure, Greenfield.
- † A. B. Staples, Taunton, 2 machines.
- * A. Williams, Taunton, 2 machines.
- * Taunton Brick Co., Taunton, 4 machines.

- † Anthony Allair, Hatfield.
- * E. T. Richards & Son, Holyoke, 2 machines.
- * Landers Bros. Holyoke.
- † Bush & Avery, Westfield.
- * J. M. Loucraft, E. Bridgewater, 4 machines.
- † W. V. Judkins, E. Bridgewater.
- † G. N. Dyer, Gardner.
- † A. H. Hines, Gardner.
- * L. H. Marshall, Chelsea, 2 machines.

Michigan.

- * A. B. Paine, Saginaw, 2 machines.
- * R. H. Hall, Detroit, 6 machines.
- * Collins & Jaynes, Detroit.
- Mr. Holmes, Ypsilanti.
- † Jas. D. Moses, Mt. Pleasant.

Minnesota.

- † John Krugel, St. Cloud.

Mississippi.

- † P. H. Higgins, Meridian.
- Rubush & Co., Starkville.
- † Dantzler & Evans, Moss Point.
- * O'Brien & Co., Natchez.
- † T. A. Wilson, Port Gibson.

Missouri.

- * John Stukenberg, St. Louis.
- § * L. H. Stukenberg, Kansas City, 2 machines.
- * D. Underwood, Kansas City, 3 machines.
- * B. J. Potter & Co., Kansas City.
- § Otto Herman, De Soto.
- † Taylor Hofman, Sedalia.
- * Paul Ellenburg, Springfield.

Nebraska.

- † Collins & Kerr, Grand Island.
- † Juan Boyle, Kearney.
- † Wm. O'Connor, Kearney.
- † Government Indian School, Genoa.

New Hampshire.

- T. M. Chamberlain, Mason Village.

New Jersey.

- † Drummond & Wilcox, Asbury Park.

- † Ludlow & Sons, Asbury Park.
- † S. J. Willis, Masonville, Rancocas P. O.
- † Jos. H. Borton, Pleasantville.
- † G. Van Deventer, Matawan.
- † A. Gaston, Cliffwood.
- † H. H. Longstreet, Matawan, *2 machines.*
- * Henry Maurer, Perth Amboy.

New York.

- * || † A. Brush & Bro., Buffalo, *12 machines.*
- * || † G. W. Schmidt, Buffalo, *3 machines.*
- * † Louis Kirkover, Buffalo, *3 machines.*
- † H. D. Kirkover, Buffalo.
- * F. Hickey, Buffalo, *2 machines.*
- * Henry Dietschler, Buffalo, *2 machines.*
- * || Page Patent Brick Co., Rochester.
- * || Rochester Brick and Tile Co., Rochester, *7 machines.*
- * † Monroe County Brick and Tile Co., Rochester, *2 machines.*
- * || Rochester German Brick and Tile Co., Rochester, *2 machines.*
- * Brown & O'Connor, Hornellsville.
- * † A. H. Newton & Bros., Crescent.
- † J. T. Crawford, Liverpool.
- * † D. Ralston, Troy.
- * Stapleton Bros., Jamestown.
- * Richardson & Campbell, Ithaca.
- * Stephen Saunders, Fishkill Landing.
- † Manning, Maxwell & Moore, New York City. (Export.)
- † A. S. Lazarus & Co., New York City. (Export.)
- † Eggers & Heinlein, New York City. (Export.)
- † S. Samper & Co., New York City. (Export.)
- † Parrage & Abendroth, New York City. (Export.)
- † Wexell & DeGress, New York City. (Export.)
- * || † Wells & Brigham, Binghamton, *2 machines.*
- * || H. B. Ogden, Binghamton.

- * Benj. Westlake, Horseheads, *2 machines.*
- * Ferrin, Oswill & Reynolds, Cherry Creek.
- † Woodruff & Arnold, Homer.
- * † Jerome Walsh, Catskill.
- † John Armstrong, Cuba.
- * || † Robert Gay, Maplewood.

North Carolina.

- * J. F. Ives, New Berne.
- † H. Mensing, Wadesboro.
- † H. H. Webb, Asheville.
- † John Barnes, Wilson.
- * Spagh & Miller, Winston.

Ohio.

- * Kemp & Johnson, Dayton.
- * D. L. Frisch, Middletown.
- † Myerholtz & Co., Napoleon, *2 machines.*
- † Myerholtz & Co., Defiance, *2 machines.*
- * J. M. Blair & Son, Cincinnati, *2 machines.*
- † Wm. Spahr, New Richmond.
- § Jos. Budd, Lockland.
- † John L. Reider, Chillicothe.
- * Edw. Nicholson, Steubenville.
- * ¶ † M. W. Brooker & Co., Toledo, *3 machines.*
- * † E. B. Hall, Toledo, *2 machines.*
- † John B. Fox & Co., Toledo.
- § Peter Cullen, Cleveland.
- † Chas. Mulby & Son, Columbus.
- † A. B. Small & Co., Leesburg.
- * Ezra Frost, New Lisbon, *Fire Brick.*
- * Porter & Co., New Lisbon, *Fire Brick.*
- * Daniels & Francey, Elliottsville, *Fire Brick.*
- * N. U. Walker, Wellsville, *Fire Brick.*
- * John Francey, Sloan Station, *Fire Brick.*

Pennsylvania.

- * † Sankey Bros., South Side, Pittsburgh, *3 machines.*
- * F. Benz & Bro., Pittsburgh.

* Shaw, Stearnes & Morris, Pittsburgh.

* Harbison & Walker, Pittsburgh, *Fire Brick.*

* C. Mills, Braddock.

† John Coon, Franklin.

* J. P. McConaughy, Johnstown.

* Louis Von Lunen, Johnstown.

† C. Kuhn, Indiana.

† Robert P. Long, Middletown.

§ T. & J. Hillard Bros., Wilkesbarre.

* W. Dickover & Son, Wilkesbarre.

† J. L. Graft, Scottdale.

¶ † William Kahl, Lancaster.

§ Theodore Bartley, Agt., Roxborough.

† D. Johnson, Waynesboro.

§ R. C. Stewart, Shippensburg.

† J. C. Lehman, Mount Pleasant.

* J. B. Ford, Hite's Station, Allegheny county.

† C. J. Miller, Greensburg.

* W. Frantz & Bro., Allegheny City.

§ Gage & Summers, Huntingdon.

* Henry Shenk, Huntingdon.

§ Henry & Snare, Huntingdon.

† Zollinger & Bro., Wilkinsburg.

* Keenan, Babcock & Co., Hollidaysburg.

* H. C. Dunn, Erie.

* Lake Shore Brick Works, Erie.

* J. R. Vaughn, Altoona.

† C. B. Wilcox, Kingston.

* † D. P. Shenfelder & Company, Reading.

* Godfrey & Clark, Tarentum.

* Siner & Bro., Philadelphia.

* ¶ Thos. J. Rose, Philadelphia.

* H. K. Vandusen, Philadelphia, *Fire Brick.*

* Moyer & Quail, Auburn.

* James S. Cruthers, West Newton.

† Jos. Spang & Co., Pottstown.

* Keystone Fire Brick Co., Layton Station, *Fire Brick.*

* Diamond Fire Brick Co., Layton Station, *Fire Brick.*

† J. W. Miller, Uniontown.

South Carolina.

* Sanders, Welling & Co., Charleston.

C. Waring, Columbia.

* C. D. May, Yemassee.

† Dilling, Baker & Co., Spartanburg.

Tennessee.

* John Cubbins, Memphis, 2 *machines.*

§ Owen & McCabe, Jackson.

* Henry Moorhead, Knoxville.

Texas.

† John McDonald, Paris.

* ¶ Campbell & Rollans, Paris.

† Colonel Ross, Greenville.

† M. Butler, Corsicana.

† J. H. Miliken & Co., Wetherford.

† D. A. Adler, Terrell.

† Spahr & Thomas, Dallas.

† Spahr & Cooper, Maysville.

† Martin, Byrne & Johnson, Colorado.

§ O. G. Compton, Caldwell.

§ ¶ Houston Brick Works, Houston, 2 *machines.*

Vermont.

§ John Banyea, Vergennes.

Virginia.

† H. C. Williams, Norfolk.

† * D. C. Harrell, Suffolk, 2 *machines.*

† Sexton & Rogers, Wytheville.

† O'Neil & Corbett, Alexandria.

† Williams & Jackson, Franklin.

* J. W. Bradbury, Petersburg.

† G. W. Lambert, Richmond.

West Virginia.

† Levi Baker, Charlestown.

† A. E. T. Scruggs, Alderson.

† Clark Howell, Alderson.

* W. B. Freeman, Freeman's Landing, *Fire Brick.*

* Thomas Anderson & Son, Freeman's Landing, *Fire Brick.*

Wisconsin.

† Cook, Brown & Co., Oshkosh.

* J. D. Koontz, Waupaca.

* A. Eisenach, Neenah.

- * Hove & Kutler, Appleton.
- * W. S. Bemis, Waupaca.
- * W. Finnegan, Fort Howard.
- * P. McFadden, Menasha.

Dakota.

- * Fargo Brick and Tile Co., Fargo, 2 machines.
- † August Kunze, Yankton.

Montana Territory.

- † C. C. Thurston, Butte City.
- † Ed. King, Butte City, 2 machines.
- † W. A. Clark, Butte City.
- † A. Lamme & Co., Bozeman, 2 machines.
- † C. C. Thurston, Helena.
- † James R. Campbell, Anaconda.

Utah.

- † L. Grix, Ogden
- † Ed. Brain, Salt Lake City.
- † Walker Bros., Salt Lake City, 2 machines.

- † H. B. Clawson, Salt Lake City, 2 machines.

- † G. A. Lowe, Salt Lake City.

Foreign.

- * J. Gore, Dunedin, New Zealand.
- Dr. M. A. Cheek, Bangkok, Siam.
- Mexican Nat. Constructing Co., Vera Cruz, Mexico.
- Sestin Land and Mining Company, Parrol, Mexico.

Public Institutions.

- * Southern Ill. Penitentiary, Chester, Ill., 2 machines.
- * State Penitentiary, Lincoln, Neb., 2 machines.
- * State Penitentiary, Jefferson, Mo.
- * Penitentiary, Columbia, S C.
- * Alabama Insane Hospital, Tuscaloosa, Ala.
- * Jackson Insane Asylum, Jackson, La.

CANADA.

- R. J. McCormack, Warwick.
- D. Jordan, Chatham.
- J. G. McDonald & Co., Winnipeg, Manitoba.
- Ryan & Allen, Smith Falls.
- Samuel Wright, Durham.
- A. B. Caldwell, Lunenburg, N. S.
- Bliss, Thibedeau & Co., Moncton, N. B.
- D. S. Pickworth, Warkworth, Ont.
- T. Hooker & Son, Welland.
- R. Romain, Peterboro.
- John Saxbee, Southampton.
- Henry Smith, Port Elgin.
- H. Smedley, Colborne.
- C. A. Muma, Drumbo.
- M. Kilpatrick, St. Thomas.
- C. Lithbridge, Owen Sound.
- Central Prison, Toronto.
- Booth & Pears, Yorkville.
- Booth & Pears, Carleton.
- T. Nightingale, Yorkville.
- J. Shippard, Yorkville.
- W. Plant, Yorkville.
- J. Russell, Leslieville.
- J. Jones, Leslieville.
- M. Bowler & Son, Artemesia.
- Heiman & Gruhn, Berlin.
- Braum Bros., Berlin.
- L. A. Danberger, Berlin.
- A. Oitzel, Waterloo.
- John McBean, Chesley.
- Wesley Crone, Collingwood.
- S. J. West, Campbellford.
- J. Cornhill, Chatham.
- F. Dumas, Chatham.
- J. Taylor, Chatham.
- J. & B. Bear, Doon.
- J. Kidd, Gananoque.
- L. Iandoni, Garafraxa.
- T. Beer, Hamilton.
- J. T. Wilson, Harriston.
- C. Scarborough, Hanover.
- W. Mathewson, Flesherton.
- W. Doerr, Linwood.
- Hy Smith, Listowell.
- J. O. Ott, Elmira.
- J. McGregor, London.
- Ed. James, Sarnia.
- C. Jenvey, Springfield.
- J. & V. Robinet, Sandwich.
- D. Wattenworth, Ridgetown.
- Amos Train, Tottenham.
- W. James, Warwick.
- R. J. Barber, Winnipeg, Manitoba.
- G. Adshead, Winnipeg, Manitoba.
- J. D. McDonald, Winnipeg, Manitoba.
- Canada Pacific Ry., Winnipeg, Manitoba.
- Thos. Ward, Winnipeg, Manitoba.
- Legg & Bro., Winnipeg, Manitoba.
- Martin & Balfour, Dom. City, Manitoba.
- J. & P. Lyon, St. Boniface, Manitoba.
- D. Saul, St. Boniface, Manitoba.
- T. Kelly, St. Boniface, Manitoba.
- D. Glass, Selkirk, Manitoba.
- J. McKenzie, Portage La Prairie, Manitoba.
- H. R. Beckett & Son, Sherbrooke, P. Q.
- A. Gibson, Marysville, N.B., and many others.

BRICK MACHINEERY.



HENRY MARTIN, Inventor, Proprietor and Manufacturer, Lancaster, Pa., U. S. A.